FARBEROV, M.Z., inzh.; POGODIN, B.A., inzh.

Using pneumatic power heads in small-scale mass production.
Energomashinostroenie 3 no.12:31-33 D '57. (MIRA 11:1)
(Lathes--Attachments)

FARBEROV, M.Z.

FARBEROV, M.Z., inzh.

Quick turning pneumatic machine tools. Mashinostroitel' no.9:18-19 S '57. (MLRA 10:9)
(Grinding machines)

FARBEROV, M.Z.

AUTHORS: Pogodin, B.A., and Farberov, M.Z., Engineers 117-2-7/29

TITLE: Experience in Modernization of Devices (Opyt modernizatsii prisposobleniy)

PERIODICAL: Mashinostroitel', 1958, # 2, pp 15-18 (USSR)

ABSTRACT: The article describes modernized universal pneumatic clamping heads for metalcutting machine tools at the plant "Ekonomayzer". These clamping heads - of 1,200, 1,600 and 2,500 kg force - are identical in all basic dimensions and can be changed if the clamping force is not sufficient. The heads comprize a pneumatic contactor ("pnevmokontaktor") (Fig.5) serving as a safety device and switching the main machine tool drive off at the moment the pneumatic pressure drops and the clamping head loosens its grip. The illustrations show the "Ekonomayzer" clamping head separately and with clamped milling attachments as well as an attachment for cutting blade blanks.

Universal pneumatic clamping heads permit the clamping of all possible attachments for machining work of various shapes. In case of breakdowns in the pneumatic system they can readily be re-set for manual clamping.

There are 11 drawings.

AVAILABLE: Library of Congress

Card 1/1

AUTHOR: Farberov, M.Z., Engineer, SOV-117-58-4-10/21

TITLE: Stamping Corrugated Sheets (Shtampovka gorfirovannykh listov)

PERIODICAL: Mashinostroitel', 1958, Nr 4, p 30 (USSR)

ABSTRACT: A special die for corrugating regenerated sheets of 0.5 mm "1Kh18N9T" steel, made at the "Ekonomayzer" plant, is described and illustrated. The die consists of a flat upper plate with a rubber pad, and a wavy cast bronze bed die. The rubber pad, used instead of the second forming element of the die, requires increased press power, therefore the die is recommended for only small sheets. There is 1 drawing.

1. Dies—Design 2. Presses--Applications 3. Metals--Processing

Card 1/1

AUTHOR: Farberov, M.Z., Engineer SOV/117-58-11-17/36

TITLE: The Processing of the Compressor Blades of a Gas Turbine Installation (Obrabotka kompressornykh lopatok gazoturbinnoy ustanovki)

PERIODICAL: Mashinostroitel', 1958, Nr 11, pp 20 - 21 (USSR)

ABSTRACT: The mechanical processing of the compressor blades in gas turbine installations (Figure 1) is done by means of three-dimensional copies. For this purpose, the lathe model 1D62 was modernized (Figure 2). The copy is turned by the spindle and guides the cutter, which machines the blade. The copy is made of steel type KhVG. The cutter has the same diameter as the roller (Figure 4). It has an inclination of 45°. There are 4 sets of diagrams.

1. Gas turbine blades---Production 2. Lathes---Performance
3. Cutting tools---Design

Card 1/1

AUTHOR: Farberov, M.Z., Engineer

SOV/117-58-12-16/36

TITLE: An Attachment for Machining the External Profile of Turbine Blades (Prisposobleniye dlya obrabotki naruzhnogo profilya turbinnykh lopatok)

PERIODICAL: Mashinostroitel', 1958, Nr 12, pp 22 - 23 (USSR)

ABSTRACT: A new special device was developed and brought into use at the "Ekonomayzer" Plant for machining the external profile of gas turbine blades on the "1D62" lathe by means of turning with the use of a three-dimensional copying device. The profile of the copying device, which provides a satisfactory accuracy, is obtained by graphic means. The device and its operation are described in detail. There are 6 sets of diagrams.

Card 1/1

25(2) SOV/117-59-5-11/30

AUTHOR: Farberov, M.Z., Engineer

TITLE: Modernization of the "I-38A" Electric Machine

PERIODICAL: Mashinostroitel', 1959, Nr 5, p 18 (USSR)

ABSTRACT: The Leningrad "Ekonomayzer" Plant has developed a special reversing mechanism for the electric hand machine type "I-38A" (Figure 1), to mechanize the processes of screw driving, and cutting fine screw threads. The reversing drive is attached by screws to the front end of the machine. The modernization has only slightly increased the weight. The design of the reversing drive is illustrated by a kinematic diagram and a detailed drawing. A reversing mechanism has also been made for the pneumatic hand machine "RS-32", which is used in assembly work for drilling, reaming, threading, screw driving, etc. There are 3 sets of diagrams.

Card 1/1

FARBEROV, M.Z., inzh.

Modernizing lathes for machining external profiles of rotor blades for turbines. Energomashinostroenie 5 no.1:37-39 Ja '59. (MIRA 12:2)

(Lathes) (Blades)

FARBEROV, M.Z.

Small-size universal turnable milling machine. Mashinostroitel' no.11:20 N '59. (MIRA 13:3)
(Milling machines)

FARBEROV, M Z 3

PHASE I BOOK EXPLOITATION SOV/5676

Azarov, A. S., Candidate of Technical Sciences, Docent, ed.

Prisposobleniya dlya gruppovoy obrabotki detaley; opyt nekotorykh leningradskikh zavodov (Equipment for Group Machining of Machine Parts; Experience of Certain Leningrad Plants) [Leningrad] Lenizdat, 1960. 254 p. 3,000 copies printed.

Scientific Ed.: P. I. Bulovskiy, Doctor of Technical Sciences, Professor; Ed.: A. E. Lepin; Tech. Ed.: R. G. Pol'skaya.

PURPOSE : This collection of articles is intended for technical personnel and skilled workers in machine and instrument plants; it may also be used by students in schools of higher technical education and tekhnikums.

COVERAGE: Basic principles in the design of universal, universal-setup, and group-machining jigs and fixtures are stated. This equipment is also considered from the standpoint of its application in several Leningrad machine and instrument plants.

Card 1/3

Equipment for Group Machining of (Cont.) SOV/5676

Examples are given for the grouping of parts according to shape or special processing features. Constructions for group-machining fixtures are presented, and certain problems encountered in parts machining, fixture design, and cutting regimes are discussed. Calculations relating to the economic effectiveness of various types of jigs and fixtures are included in some of the articles. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Equipment for Group Machining of (Cont.) SOV/5676

AVAILABLE: Library of Congress (TJ1185.P69)

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VK/wrc/jw
11-15-61

FARBEROV, M.Z., inzh.

Attachment for boring internal profiles of turbine blades with a variable cross section on lathes. Mashinostroitel' no.2:27-28 F '60. (MIRA 13:5)
(Lathes--Attachments)

FARBEROV, M.Z., inzh.

Using compressed air in testing machine parts. Mashinostroitel' no.3:7 Mr '60. (MIRA 13:6)
(Machinery—Testing)

FARBEROV, M.Z.

Pneumatic bench press. Mashinostroitel' no.6:18 Je '60. (MIRA 13:8)
(Power presses)

VASIL'YEV, Nikolay Nikolayevich; FARBEROV, M.Z., inzh., retsenzent; KUDASOV, G.F., kand. tekhn. nauk, red.; ZAZERSKIY, Ye.I., inzh. red.; BORODULINA, I.A., red. izd-va; NIKOLAYEVA, I.D., tekhn. red.

[Cylindrical external grinding] Krugloe naruzhnoe shlifovanie. Pod obshchei red. G.F.Kudasova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 87 p. (Biblioteka shlifovshchika, no.2) (MIRA 14:11)

(Grinding and polishing)

23463

S/114/61/000/007/002/003
E194/E455

26.2122

AUTHOR: Farberov, M.Z., Engineer

TITLE: An instrument for measuring the mean dimension of tooth profiles of turbine blade roots

PERIODICAL: Energomashinostroyeniye, 1961, No.7, pp.28-29

TEXT: This article describes a device which permits the separate measurement of the mean dimensions of teeth on each side of the blade root without the need for a reference basis. In manufacturing turbine blade roots, a procedure is required for measurement of the mean dimension of the teeth of the profile. The cross-section of the root is a parallelogram and the ratio of the lengths of the two sides is about 1:3. It is impossible, without special equipment, to measure the mean length on the teeth on two opposite small sides with a universal measuring device. Analysis of the problem indicates that the mean dimension on the teeth can be measured separately, that is without a special reference basis. For this purpose a special fitting was made up consisting of a sloping block, the angle of slope of which corresponds to the angle of section of the blade root and the

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An instrument for measuring ...

width to the drawing dimension of the mean line of the profile. The blade is clamped into a special fitting. The mean diameter is measured with a thread micrometer with a special ball tip giving an accuracy of measurement of 0.01 mm. Fig.1 illustrates calculation of the wall diameter for a particular type of blade root and it is found by simple geometry that the diameter should be 1.73 mm. A ball diameter of 2 mm may be used if appropriate corrections are made. In this case the dimensions between two balls of 2 mm diameter is 25.126 mm. To make the measurements with the thread micrometer, a ball of 2 mm diameter is fitted to its fixed head 1 (of Fig.2); the other micrometer head remains flat. Various possible cases of blade position relative to the reference sphere of the device are then considered and, using the notation of Fig.3, it is shown that in each case the measurement is related to the dimensions by the formula:

$$x = a + b - 25.126$$

To measure the blade profile the measurement is first made from one side of the blade and then repeated from the other and

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An instrument for measuring ...

calculations are made by the above formula. There are 3 figures.

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FARBEROV, M.Z., inzh.

Device for measuring the mean cross section of the toothed terminal ends of turbine blades. Energomashinostroenie 7 no.7:28-29 Jl '61. (MIRA 14:8)
(Gas turbines)

FARBEROV, M.Z., inzh.

Machining of large curvilinear surfaces on a lathe.
Energomashinostroenie 9 no.3:29 Mr'63. (MIRA 17:5)

NIKOLAYEV, I; PODVA, M; YURCHENKO, A. (Berdyansk); BABYNIN, A. (Belgorod); NEMIROVSKIY, V. (Khabarovsk); FARBEROV, S. (Mogilev); SOLDATENKOV, O. (Khimki, Moskovskaya obl.)

Brief notes. Sov.foto 18 no.10:86-87 O '58. (MIRA 11:11)
(Photography)

KAL'M A. (Novgorod); FARBEROV, S. (Novgorod); ZHDANOV, A. (Moskva); MASENKOV, D., pozharnyy inspektor (g. Kropotkin); IVANTSOV, S. (Ufa)

Readers' letters. Pozh.delo 7 no.3:32 Mr '61. (MIRA 14:5)
(Fire prevention)

KOVAL'SKIY, V.V., prof.; LETUNOVA, S.V.; KRYLOVA, R.V.; FARBEROV, V.G.

Cobalt in fish culture; biogenic migration of chemical elements in ponds. Priroda 54 no.5:69-70 My '65. (MIRA 18:5)

1. Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR (Moskva).

FARBEROV, Ya. D

ASHIKHMIN, A.K.; BUKANOV, M.A.; DLUGACH, B.A.; DOBROSEL'SKIY, K.M., inzhener; KOSTRYKIN, A.A.; LEBEDEVA, T.P., NIKITIN, V.D.; FARBEROV, Ya.D.; NIKITINA, V.D., professor, redaktor; GULEV, Ya.F., redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Handbook for hump yard workers] Rukovodstvo rabotnikam sortirovochnoi gori. Moskva, Gos. transp. zhel-dor. izd-vo, 1950. 222p [Microfilm] (MLRA 10:1)

1. Russia (1923- U.S.S.R.) Ministerstvo putey sooobshcheniya (Railroads--Hump yards)

TODRES, V.N.; SIMONOV, K.S.; FARBEROV, Ya.D., redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Handbook for railroad make-up men and yard couplers] Rukovodstvo sostaviteliu poezdov i stsepshchiku vagonov. Moskva, Gos. transport. zheleznodorozh. izd-vo, 1953. 218 p. [Microfilm] (MLRA 7:11)
(Railroads--Making-up trains)

BERNGARD, K.A., kandidat tekhnicheskikh nauk; KLEYNMAN, N.M., inzhener; NERSHIN, B.F., inzhener; FARBEROV, Ya.D., inzhener; YAKOVLEV, Ya.G., inzhener; DLUGACH, B.A., kandidat tekhnicheskikh nauk, redaktor

[Progressive methods of breaking up and making up trains] Peredovye metody rasformirovaniia i formirovaniia poezdov. Moskva, Gos. transp.zhel-dor. izd-vo, 1954. 78 p. [Microfilm] (MLRA 10:1)
(Railroads--Making up trains)

YEVDOKIMOV, I.I.; ALEKSEYEV, V.D.; ASHIKHMIN, A.K.; BAYEV, N.V.; BEGLAR'YAN, P.A.; BYCHKOV, I.A.; VESLOVA, Ye.T.; VYZHEKHOVSKAYA, M.F.; GURETSKIY, S.A.; DEMIDOV, I.M.; YESIPOV, Ye.P.; ZHUKOV, V.D.; ZELINSKIY, M.G.; ZOL'NIKOV, F.T.; ZOLOTOVA, L.I.; KIVIN, A.N.; KOMARNITSKIY, Yu.A.; KONSTANTINOV, A.N.; KUL'CHITSKAYA, A.K.; MAKSIMENKO, I.I.; MELENT'YEV, A.A.; MOROZOV, I.G.; MURZINOV, M.I.; OZEMBLOVSKIY, Ch.S.; OSTRYAKOV, K.I.; PANINA, A.A.; PAVLOVSKIY, V.V.; PERMINOV, A.S.; PERSHIN, B.F.; PRONIN, S.F.; PSHENNYY, A.I.; POKROVSKIY, M.I.; RASPONOMAREV, Ye.A.; SEMIN, I.N.; SKLYAROV, Yu.N.; TIBABSHEV, A.I.; FARBEROV, Ya.D.; FEDOROV, G.P.; SHUL'GIN, Ya.S.; YAKIMOV, I.A.; VERINA, G.P., tekhn.red.

[Labor feats of railway workers; stories about the innovators] Trudovye podvigi zheleznodorozhnikov; rasskazy o novatorakh. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 267 p. (MIRA 12:9)
(Railroads) (Socialist competition)

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Generalized theory and practice of operational organization of railroad yards ("Technical fundamentals of sectional and classification yard operation" by I.O. Tikhomirov. Reviewed by IA.G. IAkovlev, IA.D. Farberov). Zhel. dor. transp. 41 no.2:95-96 F '59.
(MIRA 12:3)

(Railroads--Yards)

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Adopt advanced and progressive methods in the standard technology of classification yards. Zhel.dor.transp. 42 no.12:27-29 D '60. (MIRA 13:12)

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(Railroads—Humpyards)

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[Efficient utilization of the technological equipment of stations; work practices of Bryansk II Station of the Moscow Railroad] Effektivnoe ispol'zovanie tekhnicheskikh ustroistv stantsii; opyt raboty stantsii Briansk II Moskovskoi dorogi. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1962. 44 p. (MIRA 15:3)
(Railroads—Equipment and supplies)

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[Operational planning of the work in a railroad station] Operativnoe planirovanie raboty na stantsii. Moskva, Transzheldorizdat, 1963. 56 p. (MIRA 16:3)
(Railroads--Management)

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1. Nachal'nik sborochnogo tsekha Moskovskogo zavoda shlifoval'nykh stankov (for Nazarov). 2. Zamestitel' nachal'nika sborochnogo tsekha Moskovskogo zavoda shlifoval'nykh stankov (for Farberov). 3. Glavnyy inzhener zavoda "Sel'khozdetal'" (for Vikhman). 4. Glavnyy inzhener Kishinevskoy tabachno-fermentatsionnoy fabriki (for Slivinskiy). 5. Glavnyy inzhener Lidskogo zavoda metallicheskogo shirpotreba, Grodnenskaya oblast' (for Zaytsev).
(Industrial organization)

FARBEROVA, B.

Soviet section at the international labor exhibition in Turin. Biul. nauch. inform.; trud i zar. plata 4 no.7:53-56 '61. (MIRA 14:8)

(Turin--Exhibitions) (Labor and laboring classes)

FARBEROVA, B.

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1. Zamestitel' direktora Vsesoyuznoy postoyannoy vystavki Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov po okhrane truda.
(Industrial hygiene—Exhibitions)

OSIPOVA, T.N.; PETROV, Ye.A.; FARBEROVA, B.P.; KHROMCHENKO, V.T.; VESELKINA, A.A., red.; KIRSANOVA, N.A., tekhn.red.

[Museum of Industrial Safety of the All-Union Central Council of Trade Unions; a description of exhibits] Muzei okhrany truda VTsSPS; opisanie eksponatov. Izd-vo VTsSPS Profizdat, 1956. 229 p. (MIRA 12:3)
(Industrial safety) (Moscow--Industrial museums)

FARBEROVA, B.P.

Collected works on labor protection. Zhel. dor. transp. 40 no. 7:94-95 Jl '58. (MIRA 11:7)

1. Zamestitel' direktora Muzeya okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov.
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Unsymmetrical organic α-oxides. Some conversions of α-oxides. Trudy VGU 49:9-14 '58. (MIRA 13:5)
(Oxides)

FARBEROVA, E.

Regulating wages for the workers of machinery manufacturing enterprises in the Polish People's Republic. Biul. nauch. inform.: trud i zar. plata 5 no.4:55-60 '62. (MIRA 16:1)
(Poland—Wages—Machinery industry)

FARBEROVA, E.

Public health employees' wages in the Polish People's Republic.
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(Poland--Public health) (MIRA 13:6)
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YAKOVLEVA, Ye.N., kand.ekonom.nauk, nauchnyy sotrudnik; FARBEROVA, E.N., nauchnyy sotrudnik; GRUZINOV, V.P., nauchnyy sotrudnik; ROGOVOY, L.Z., nauchnyy sotrudnik; SHYUTTE, G.G., nauchnyy sotrudnik; GORFAN, K.L., nauchnyy sotrudnik; SEREZHKIN, A.S., nauchnyy sotrudnik; LYADOV, P.F., nauchnyy sotrudnik; SAVOST'YANOV, V.V., nauchnyy sotrudnik; FILIPPOVA, V.V., nauchnyy sotrudnik; KHOLIN, I.A., red.; PONOMAREVA, A.A., tekhn.red.

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1. Moscow. Nauchno-issledovatel'skiy institut truda. 2. Otdel stran narodnoy demokratii Nauchno-issledovatel'skogo instituta truda (for all except Kholin, Ponomareva).
(Europe, Eastern--Labor and laboring classes)

FARBEROVA, E.

Mechanization of administrative work in the Polish People's Republic. Biul.nauch.inform.: trud i zar.plata no.11:49-51 '59. (MIRA 13:5)

(Poland--Office equipment and supplies)

FARBEROVA, E.

New documentation on establishing technical standards in the Polish People's Republic. Biul.nauch.inform.: trud i zar.plata 3 no.3:59-60 '60. (MIRA 13:8)
(Poland--Machinery industry--Production standards)

FARBEROVA, E.

Wages of employees in the courts and district attorney's offices of the Polish People's Republic. Biul.nauch.inform.: trud i zar. plata 3 no.5:60-63 '60. (MIRA 13:8)
(Poland--Judges--Salaries, pensions, etc.)
(Poland--Public prosecutors--Salaries, pensions, etc)

FARBEROVA, E.

New regulations on issuing bonuses to engineers, technicians and employees of industrial enterprises in the Polish People's Republic. Biul.nauch.inform: trud i zar. plata 3 no.7:52-56 '60. (MIRA 13:8)
(Poland—Bonus system)

FARBEROVA, E.

Measures for organizing the establishment of work norms in the Polish People's Republic. Biul. nauch. inform.: trud i zar. plata 5 no.5:56-59 '62. (MIRA 15:7)
(Poland--Production standards)

FARBEROVA, G.M.; SHAKH, A.D.

Basic trends in the utilization of latex in foreign countries. Kauch.i rez. 21 no.12:36-42 D '62. (MIRA 16:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

(Foam rubber) (Latex)

FARBEROVA, O.M.; SHAKH, A.D.

Problems of economics in the production of elastic sponge materials. Kauch.i rez. 24 no.1:44-47 Ja '65. (MIRA 18:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

Effect of the intermolecular interaction and [illegible]perature on the relative elongation of vulcanizates at rupture. [illegible] E. [illegible] and I. I. [illegible] (M. [illegible] Chem. Technol., Moscow). *Kolloid. Zhur.* 15, [illegible] 49, 1[illegible]
[illegible] vulcanizates of 3 synthetic rubbers [illegible] 20%, and 40% nitrile, resp., were [illegible] lower rupture stress σ_r and lower elongation ϵ_r the [illegible] was the nitrile content n. The effect of n was [illegible] at higher temps., e.g., for n = 18, σ_r and ϵ_r were [illegible] kg. [illegible] [illegible] at 20° and 65 and 300% at 75° and for [illegible] ϵ_r were 200 kg./sq. cm. and 540%, and 70 [illegible] at 20° and 75°, resp. An equation was derived for the effect of temp. on ϵ_r; it contained the cohesional energy U of the vol. in which rupture occurred. U/R was 1500 and 3500 for n = 18 and 40, resp.; R is the gas const.

J. J. Bikerman

FARBEROVA, L.

Effect of intermolecular interaction and temperature on the relative elongation of vulcanizates at rupture. V. B. Gul and L. I. Farberova. Colloid J. (U.S.S.R.) 15, 157-62 (1953) (English translation). See C.A. 51, 12001d.

SOV/138-59-4-10/26

AUTHORS: Nosov, Yu.A. and Farberova, I.I.

TITLE: Methods of Testing Rubber Intended for the Manufacture of Packings (Metod' otsenki reziny, idushchey na izgotovleniye uplotnitel'nykh detaley)

PERIODICAL: Kauchuk i Rezina, 1959, Nr 4, pp 36-41 (USSR)

ABSTRACT: The main properties which require to be determined for rubbers intended for manufacture of packings, sealing rings, etc., are: dependence of elastic properties on temperature (both at elevated temperatures and sub-zero conditions); dependence of these properties on time, i.e. relaxation or creep; deterioration of general properties with time, i.e. ageing (both under normal conditions and when subjected to contact with liquids, oil etc.). The characteristic of special interest for packings is compression modulus. The most simple test is determination of relative permanent deformation in compression. This can be carried out by compressing the specimen in a clamp for a given time under the desired ambient conditions, or immersed in the appropriate fluid. Such a test, however, is performed at constant deformation and not at constant stress. Resistance to freezing is frequently determined by measuring the elastic

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Methods of Testing Rubber Intended for the Manufacture of Packings

recovery after compression - the specimen being compressed in a clamp while at room temperature and then "frozen". The recovery of dimension is measured on release of clamp pressure while the specimen is at the low temperature. The results can be expressed as a ratio of elastic radial forces (in a ring packing) at the test temperature, to those at room temperature. This ratio is plotted against temperature for two rubber rings in Figures 1 and 2. Ageing characteristics can be determined in the same way. Resistance to liquids can be determined by relative volume change on swelling (this is preferable to measurement of relative weight change). Formulae are given for calculating linear dimensional changes in cord rings from the volumetric swelling coefficient which is obtained simply from displacement when testing immersed specimens. There is a dearth of suitable methods for determination of wear resistance of packings. Standard wear tests are usually made on dry and highly abrasive surfaces and these

Methods of Testing Rubber Intended for the Manufacture of Packings

conditions are in no way comparable with the conditions under which rod or ring packings are usually required to operate. The American ASTM D-1081-49T test for permeability of rubber specimens while in a compressed state is described and is illustrated in Figure 3. An account is given also of the ASTM D 1147-53 T test for compressibility and recovery of hard rubber gasket materials. Tests on actual packing components, and in particular, on cord rings are described. Their indications are subject to variation with the dimensions of the part in question. The SAE 120R wear test is illustrated in Figure 4. In this test the rings are stretched by about 15% linearly over two shafts. The shafts are rotated at 1750 r.p.m. for a period of 24 hours, one shaft being driven by a motor. This is a comparative test, and aged rings, or rings subjected to immersion, can be compared with control specimens. Micro-hardness tests can be made on cord rings using a special "durometer" with an 0.4 mm spherical probe. The American ASTM and SAE tests are tabulated together with the Russian (TU) 1166-58 tests for rubber materials, and their 838-49 tests for actual packing components. This tabulation shows that a greater number of test methods are established

Methods of Testing Rubber Intended for the Manufacture of Packings

in the U.S.A. than in Russia. A test method developed by NIIRP for measuring modulus in radial compression on cord rings is illustrated in Figure 5. Strain gauges are applied to a thin-walled cylinder which is deflected by the piston on which the cord ring under test is mounted. This is a useful test for comparing aged and immersed rings against control specimens.
There are 5 figures, 1 table and 10 references, of which 5 are Soviet and 5 English.

15.8500

S/191/60/000/009/007/010
B013/B055

AUTHORS: Ratner, S. B., Farberova, I. I.

TITLE: Mechanical Testing of Plastics. 4. Abrasion of Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 9, pp. 61 - 69

TEXT: The present publication deals with questions on the abrasion of plastics. The resistance to wear of plastics is being investigated at many places in the USSR. Table 1 lists machines which are in use for testing plastics or would be suitable for this purpose. In general, the following conditions were applied for investigating the resistance to wear of various types of plastics: 1) Friction without lubrication, 2) four types of friction surfaces, corresponding to practical working conditions: a) rough, sharp-edged surfaces (emery paper), b) rough, blunt surfaces (wire gauze), c) smooth, hard surfaces (metal, wood, ebonite, and hard plastics, etc.), d) smooth soft surfaces (rubber and soft plastics, etc.), 3) low velocities and small loads in order to avoid heating of the material. It was found that the machines by Grasseli and by Shopper, which are generally used for testing rubber, are suitable for testing plastics.

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Both machines employ velocities of 0.3 m/sec. The load can be varied from 0.3 to 5 - 10 kg. These machines were used for preliminary studies on the abrasion of smooth surfaces and for detailed studies on the abrasion of plastics by emery paper and wire gauze (Table 2). The following results were found: Abrasion of polymer materials occurs in two ways: by cuts produced by sharp-edged surfaces (abrasive abrasion) and by elastic deformation and subsequent tearing by frictional force (frictional abrasion). The first process is accompanied by lengthwise striation of the test surface, and the second by transverse striation. Both these processes are involved in the abrasion of polymer materials. Their ratio depends on the elasticity of the material and the resistance of the surface to abrasion. The share of the frictional component is all the higher (Table 3), the more elastic the material and the blunter the edges of the abrasive grain are. In contrast to rubber, the abrasion of plastics by emery paper in the machine by Grasseli does not involve stabilization of the emery paper. Tests using emery paper should be performed in the machine by Shopper, since here sliding is always over the unused emery paper surface. The Grasseli machine is suitable for testing with the wire gauze. In abrasion of plastics (and wood) by emery

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paper the effect of load on the abrasion is described by $v = K_1 \cdot P = K_2 P/H$, where P = load and H = hardness of the material. A similar expression was previously derived for the abrasion of metals and rubber. In the abrasion of plastics (and metals or wood) by wire gauze the load exerts a stronger influence: $v = K_3 P^{\alpha} = K_4 (P/H)^{\alpha}$, where $\alpha > 1$. A similar formula was found for rubber. A comparative estimation of the resistance to wear of plastics can be based on equal load, but also on equal compression (which is determined by the ratio P/H). The ratio of the abrasion values in these cases varies for different materials. The results obtained in laboratory tests may be applied in practice, provided the ratio of the abrasive and frictional components during abrasion is equal. The share of the frictional component ($1 \geqslant f \geqslant 0$) can be determined from the test, e.g. from $f = \alpha/3\beta$. The mechanism of abrasion of any chosen sample or product is determined by external conditions (roughness, lubrication, velocity, load, temperature) and by the elasticity of the material, owing to its effect on f. This can be applied for the simulation of practical use and for laboratory tests. These experiments were carried out in collaboration with the TsNII MPS (Head of the Laboratory: Jh.M.Bilik).

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Mechanical Testing of Plastics. 4. Abrasion of Plastics

S/191/60/000/009/007/010
B013/B055

Some of the data are based on experiments performed by G. S. Klitenik by request of the authors. There are 7 figures, 3 tables, and 19 references: 16 Soviet, 3 US, and 1 British.

Card 4/4

15.8080
15.8510

24043
S/020/61/138/003/015/017
B103/B208

AUTHORS: Yermolina, A.V., Igonin, L.A., Nosova, L.A., Farberova, I.I., and Vlasova, K.N.

TITLE: Relationship between mechanical properties of crystalline polymers and their supermolecular structures

PERIODICAL: Doklady Akademii nauk SSSR, v. 138, no. 3, 1961, 614 - 615

TEXT: The authors compared some structural and mechanical properties of the industrial polyamide resin 68 (polyhexamethylene sebacic amide), from which among others slide bearings are produced and which has a high resistance to wear. They attempt to clarify the importance of the local order of the segments ("degree of crystallinity") and of the secondary supermolecular structures to the macroscopic properties of polymers. 4 x 6 x 55 mm samples were cast from the resin under pressure by means of the ЛМ-3 (LM-3) casting device, and subjected to heat treatment in inert media (silicon oils) at different temperatures and for various periods of times. The "degree of crystallinity" was determined from the integral intensities of the characteristic interferences on the intensity curve of the specimen. These curves

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S/020/61/138/003/015/017
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Relationship between ...

were recorded on the basis of the dispersion angles of X-rays on the УРС-50- И(URS-50-I) X-ray diffractometer. The spherolite structure of the polyamide was confirmed by a microphotograph of the polished surface of the sample which has previously been etched with tricresol. The metallurgical МИМ-8 (MIM-8) microscope with a 1000-fold magnification was used for this purpose. For each series of samples the reciprocal value of wear (resistance to wear) was determined by means of the sieve-type testing machine (of the Grasseli type). The heat treatment was applied at 150 and 190°C for 15 - 30 min for each of these temperatures. The conversion of the initial samples with a hexagonal cell to the triclinic form, as described in publications, was accomplished already after heating for 15 min. Further heat treatment gradually completed the X-ray picture. It was characterized by a marked increase of the interferences (100) and (010), and, accordingly, also of the "degree of crystallinity". The second appearance of the interference of the hexagonal cell between the reflexes (100) and (010) of the triclinic cell on prolonged heating was striking. After 8 hr at 190°C and after 12 hr at 150°C the crystallinity ceased to increase. There were no recognizable structural changes observed during a heat treat-

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Relationship between ...

ment of up to 30 hr. The spherolite structure of the polyamide was found to be more sensitive to a change in the method of the thermal treatment than the "degree of crystallinity". The size of the spherolites markedly increased (from 1 to 5 μ) on short heating, some structures, however, were still larger. After 8 hr heating at 190°C and after 10 hr at 150°C a gradual destruction of spherolite structures set in, and after 30 hr they could not be observed any longer on the surface of the sample. A specific correlation between the "degree of crystallinity" and resistance to wear of the plastics could not be confirmed. It may be seen from these preliminary studies that samples with a uniform size of spherolite structures (2 - 3μ) have the highest resistance to wear. It is concluded therefrom that homogeneity, size, and fine structure of the supermolecular structures play an important role in the wear of the polyamide. It is therefore of considerable interest to explain the effect of the above-mentioned structures on the mechanical properties, when studying the relationships between these properties and the structure of crystalline polymers.

The authors express their gratitude to V. A. Kargin, Academician, for discussion of the results, and S. B. Ratner for his assistance in this work.

There are 9 references: 7 Soviet-bloc and 2 non-Soviet-bloc.

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24043
S/020/61/138/003/015/017
B103/B208

Relationship between ...

The three references to English-language publications read as follows: Ref. 7: A. Keller. Proceedings of the International Conference of Crystal Growth, N. Y., 1958 ; Ref. 8: I. Sandeman, A. Keller, J. Polym. Sci., 19, 401 (1956); Ref. 9: G. Bunn, E. Garner. J. Proc. Roy. Soc., London, A 189, 39 (1947).

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass Akademii nauk SSSR (Scientific Research Institute of Plastics of the Academy of Sciences USSR)

PRESENTED: January 6, 1961, by V. A. Kargin, Academician

SUBMITTED: December 15, 1960

Card 4/4

FARBEROVA, I. I.

S/191/62/000/001/006/006
B139/B110

AUTHORS: Dvuglova, L. Ya., Lur'ye, E. G., Radyukevich, O. V., Ratner, S. B., Farberova, I. I.

TITLE: Wear (abrasion) of plastics and methods for its evaluation

PERIODICAL: Plasticheskiye massy, no. 1, 1962, 60-66

TEXT: Specimens of plastics were tested without lubrication at low speeds and loads, either with monocorundum abrasive paper M150 (M 150), ГОСТ344-57 (GOST 344-57) on Schopper machines (produced by the Metallist Plant, Leningrad), or with steel-wire cloth ГОСТ 3826-47 (GOST 3826-47) on Grasseli machines. The nondimensional wear coefficient v for plastics does not depend on the cross section of the specimens. The exchange of abrasive paper and wire cloth affects neither wear nor the spread of test results, which was estimated from the mean square deviation σ and from the variation coefficient $\delta = \frac{\sigma}{v} \cdot 100\%$. Since the spread increases during the abrasion of small masses, $\delta \leq 5\%$ was strived for. This was achieved by abrading 20-30 mg of mass in the test with abrasive paper, and 10-20 mg

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Wear (abrasion) of plastics ...

in the test with wire cloth. Values obtained for the wear of various plastics, rubbers, and wood in reference to the wear of organic glass are presented. In the abrasive paper test with a load of 1 kgs/cm^2, v is 3.7 mm^3/m·cm = $3.7 \cdot 10^{-5}$ for organic glass. This value was assumed to be 100. In the wire cloth test, v is $1.3 \cdot 10^{-7}$; this value was assumed to be 1. The abrasion coefficient α shows the extent of increase of the wear coefficient v with an increase of the standard pressure P according to the equation $v = K \cdot P^{\alpha}$ (2). For plastics, α was in most cases 1-2, since the wear on the wire cloth is caused not only by friction but also by the cutting effect. The nature of abrasion on the wire cloth is similar to that on a smooth metal surface. The wear resistance of plastics during abrasion on surfaces of varying roughness may thus be compared. Wear may be considered a fatigue process of the upper material layers owing to repeated deformation caused by the elevations of the grinding body, and can be determined from the number n of fatigue cycles. In the equation $v = i \frac{P}{H}$ (3) (H = hardness), according to I. V. Kragel'skiy, the wear i is inversely proportional to n. For determining the wear, M. M. Reznikovskiy derived the expression

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B139/B110

Wear (abrasion) of plastics ...

$v = \text{const}\ p^{(b+2)/3}$, where b expresses the slope of the fatigue curve by Wehler according to the relation $(\sigma_o/\sigma)^b = n$. σ_o = strength under single loading. σ = amplitude value of repeated dynamic stresses. b can thus be determined as the tangent of the slope of the curves $\lg n = f[\lg(\sigma_o/\sigma)]$. Owing to the destruction of molecules, the molecular weight of the wear product is lower than that of the initial material. The results were well reproducible. While for abrasion with metal screen a qualitative correlation with the fatigue strength was found, a correlation with the impact strength exists for abrasion with sandpaper. There are 4 figures, 2 tables, and 31 references: 24 Soviet and 7 non-Soviet. The four most recent references to English-language publications read as follows: S. V. Rainer, V. E. Gool, G. S. Klitenik, Wear, 2, No. 2, 127 (1958); ASTM Spec D 1044-56; ASTM Standards on Plastics, ASTM D 1242, 56 (1957); J. Burns, E. Story, Ind. Eng. Chem. 20, No. 7, 695, (1952).

Card 3/3

15.8210

S/191/62/000/009/006/012
B101/B144

AUTHORS: Farberova, I. I., Ratner, S. B., Lur'ye, Ye. G., Gurman, I. M., Ignatova, T. A., Nosova, L. A.

TITLE: Effect of some factors of composition and manufacture on the wear of plastics

PERIODICAL: Plasticheskiye massy, no. 9, 1962, 35 - 38

/B

TEXT: The results of wear tests on plastics using emery cloth (EC) and metal gauze (MG) are given. For MG wear tests and tests with smooth steel the equation $v = v_1 P^{\alpha}$ holds mainly for the frictional wear while the EC test characterizes the purely abrasive wear. Data of wear ($mm^3/m \cdot cm^2$ at 5 kg/cm^2) at 60°C (first figure EC test, second figure MG test, third figure ...) for epoxy compounds with various fillers: ED-5 (ED-5) resin with dibutyl phthalate without filler: 48, 1.8, 3.5; with graphite: 70, 0.05, 1.8; with iron powder: 25, 0.05, 1.6. For polyvinylchloride plastics filled with asbestos, talcum or quartz an initial decrease of wear with increasing filler content is followed by an increase. The minimum of

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Effect of some factors of composition...

wear is explained by the limit of compatibility between filler and polymer. For polyamides, a strong reduction of wear is already achieved with low filler addition. Data for polyamide 68 (first figure EC test, second figure MG test, $mm^3/m \cdot cm^2$): without filler 0.61, 0.0025; with 5% talcum 0.64, 0.0006; with 20% talcum 0.73, 0.0014; with 40% talcum 1.10, 0.010; with 0.5% MoS_2 0.91, 0.0003; with 5% MoS_2 1.01, 0.0006. The MG test is much more sensitive than the EC test. The EC test shows the wear in polymers to be a linear function of the product of impact strength and hardness, whereas according to the MG test the wear is a linear function of the product of tensile strength and breaking elongation. There are 3 figures and 3 tables. The English-language reference is: ASTM Standards on Plastics, ASTM D1242, 56 (1957).

VB

L 13367-63 EPF(c)/EPR/EWP(j)/EDS/EWT(m) AF:TC/ASD Pr-4/Ps-4/
Pc-4 RM/WW

ACCESSION NR: AP3003308 S/0191/63/000/007/0038/0042 70

AUTHORS: Ratner, S. B.; Farberova, I. I.; Radyukevich, O. V.; Lur'ye, Ye. G.

TITLE: Interrelation of durability of plastics with other mechanical properties

SOURCE: Plasticheskiye massy*, no. 7, 1963, 38-42

TOPIC TAGS: durability of plastic, mechanical properties of plastic, plastics, elasticity, softening point

ABSTRACT: Analysis shows that the wear V is related to the mechanical properties of the plastics by the following qualitative relationship:

$$V \sim \frac{\mu}{H\sigma\varepsilon}$$

where V is the reduction of volume or size per unit of friction travel. One of the important factors in this formula which characterizes the elasticity of the material during destruction is ε which is the factor of rupturing elongation. The experiments show that an increase of ε has a fundamental role in the increase of durability. In the examination of a large number of plastics the correlation between the expression $H\sigma\varepsilon/\mu$ and durability was noticed indeed. The main

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ACCESSION NR: AP3003308

formula shows that the increase of temperature may result not only in the decrease of durability, but also in the increase of durability as a result of a sharp increase of ε with an excessive compensating decrease of σ. The experiments in wear with plastic to metal samples at various temperatures showed the justification of the theoretical analysis. The temperature curve of the wear has 2 extremes which form a decreasing curve up to the softening point temperature. The increase of temperature in this region results in a sharp increase of durability. The increase of temperature practically does not affect the wear of the crystalline materials up to the polymer melting point and then shows a sharp decrease in durability. The sharp increase in wear during the softening of plastics is followed by a sharp change in friction. This friction increases for the amorphous materials as a result of their transformation into a highly elastic state and decreases for crystalline materials as a result of their melting In both cases these sharp changes in the coefficient of friction can be used as a method of determination of the thermostability of materials under the conditions of wear. Orig. art. has: 1 table and 8 figures.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 30Jul63	ENCL: 00
SUB CODE: MA	NO REF SOV: 015	OTHER: 001

Card 2/2

FARBEROVA, I.I.; RATNER, S.B.

Evaluating the wear resistance of plastics. Standartizatsiia 28 no.1:25-28 Ja '64. (MIRA 17:1)

FARBEROVA, I.I.; SHLEYFMAN, R.B.; SENATSKAYA, T.M.; FRENKEL', M.D.; KOGAN, A.M.

Effect of fillers on the physicomechanical characteristics of polypropylene. Plast.massy no.10:62-64 '64. (MIRA 17:10)

AP4049383

...mický prumysl, no. 11, 1964, 589-594

...resistance, fatigue strength...

...The authors have published several previous articles on this subject

...increases resistance to fatigue...

L 23583-65

ACCESSION NR: AP4049383

partial recovery of the resistance to fatigue is often noted. Orig. art. has: 8 figures and 3 tables.

ASSOCIATION: NIIPM, Moscow

SUBMITTED: 01Sep62 ENCL: 00 SUB CODE: MT

NO REF SOV: 016 OTHER: 001

Card 2/2

ACC NR: AP7002659 (A,N) SOURCE CODE: UR/0191/67/000/001/0064/0067

AUTHOR: Ratner, S. B.; Farberova, I. I.

ORG: none

TITLE: Influence of composition on the wear resistance of a plastic

SOURCE: Plasticheskiye massy, no. 1, 1967, 64-67

TOPIC TAGS: plastic, mechanical property, wear resistance, abrasive, hardness, ductility, friction coefficient, crystal orientation, MECHANICAL COMPOSITION, POLYETHYLENE, EPOXY RESIN, VINYL RESIN

ABSTRACT: The effect of composition on the wear resistance of a plastic was studied. Wear was related qualitatively to friction, strength, and ductility. Two types of wear were analyzed: ordinary wear due to repeated surface deformation, and abrasive wear due to microcutting of the surface. Equations were given for both types of wear. The temperature dependence of friction and wear were given for a vinyl plastic rubbed across steel. The wear rate of polyethylene and epoxy, abraded on a grating, was given as a function of temperature. The wear of vinyl and epoxy went through a maximum at 40°C and increased sharply above 60°C, while the abrasive wear rate of polyethylene only rose sharply above 120°C. Micrographs were shown of the abraded surfaces of rubber-resin composites for rubber contents of 20, 30, and 50%. Transverse ridges on surfaces itensified as the rubber content increased. Mechanical properties and wear

UDC: 678.01:539.538

Card 1/2

ACC NR: AP7002659

rates on both carborundum paper and metal grates were presented for a series of polyamides, polyphenols, halogen polymers, and other plastics. The wear resistance was directly related to $H\sigma\varepsilon/f$, where H is the Brinell hardness, σ is the strength, ε is the relative elongation to fracture, and f is the coefficient of friction at a load of 1 kg/cm^2. The abrasive wear rate of rubber-resin mixtures was a minimum at 40% rubber for abrasion on a grating, and at 60% rubber for wear on carborundum paper. Mechanical properties of AS salt-caprolactam mixtures were given as functions of the caprolactam content. The best wear endurance occurred at 10-25% caprolactam, corresponding to the highest strength and hardness. Orientation was induced in polypropylene and some polyamides by stretching, and the wear rates in the oriented and unoriented conditions were compared. The wear rate of oriented plastics was higher and increased linearly after 300% elongation as a function of deformation, irrespective of the type of material. Orig. art. has: 6 figures, 1 table, 3 formulas.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 011

Card 2/2

L 10816-65 EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Fs-4/Pt-10 RM/WW

ACCESSION NR: AP4046903 S/0191/64/000/010/0062/0064

AUTHOR: Farberova, I. I.; Shleyfman, R. B.; Senatskaya, T. M.; Frenkel', M. D.; Kogan, A. M.

TITLE: Effect of fillers on the physical and mechanical properties of polypropylene

SOURCE: Plasticheskiye massy*, no. 10, 1964, 62-64

TOPIC TAGS: polypropylene, filler, polymer physical property, polymer mechanical property, gas black, titanium dioxide, talc, asbestos, fiber glass, thermal stability, hardness, tensile strength, impact strength

ABSTRACT: The dynamic properties of polypropylene compositions (ash content 0.2-0.8%) containing 0.6—0.7% FSF-24 stabilizer were investigated after the addition of varying amounts of powdered or fibrous fillers (gas black, titanium dioxide, talc, asbestos, and fiber glass). The experimental techniques for preparing the samples (pressure casting on a Ziegler machine for powdered fillers and direct pressing for fibrous fillers) and determining their strength and hardness are described. Tabulated data show that impact and tensile strength were decreased by the addition of asbestos. Addition of large amounts (40%) of powdered fillers also decreased the impact strength, strength, and hardness, but smaller amounts (5—10% led to an improvement in the mechanical properties. Thus, the tensile strength

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L 10816-65

ACCESSION NR: AP4046903

3

increased to a maximum at 5% TiO_2 or talc, and the relative elongation at break increased to a maximum at 5% gas black or talc and 10% TiO_2. The changes in abrasion resistance, which generally paralleled the changes in tensile strength, are shown in Fig. 1 of the Enclosure. The compressive strength, bending strength, and Brinell hardness, however, were generally decreased by 5-10% filler. The thermal stability (Vicat) of polypropylene was essentially unaffected by the addition of fillers, the required stress decreasing linearly with increasing temperature for all samples. "The authors express their gratitude to S. B. Ratner for his evaluation of the results and valuable advice. M. M. Turok and Ts. M. Matevosyan helped to prepare the samples." Orig. art. has: 4 figures, 2 tables, and 1 formula.

ASSOCIATION: none

SUBMITTED: 00 ATD PRESS: 3117 ENCL: 01

SUB CODE: OC, MT NO REF SOV: 007 OTHER: 000

Card 2/3

L 10816-65
ACCESSION NR: AP4046903

ENCLOSURE: 01

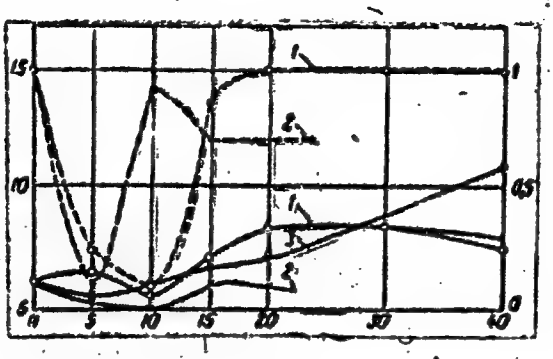


Fig. 1. Relationship between the wear of a polypropylene composition and the filler content. Solid lines: abrasion in sheet form (left-hand ordinate); Dotted lines: abrasion in mesh form (right-hand ordinate). Filler: 1 - gas black; 2 - TiO_2; 3 - talc. Ordinates: wear in $mm^3/m \cdot cm^2$; abscissa: filler content in wt.%.

Card 3/3

NOVINA, K.P., RUMYANTSEVA, Z.M., FARBEROVA, M.I., EPSHTEYN, V.O.

Rubber transformation with an aldehyde group in the rubber.

Report submitted for the 4th Scientific research conference on the chemistry and technology of synthetic and natural rubber. Yaroslavl, 1962

HADEN-GUEST, Stephen (1902-), red.; GORBUNOV, V.V.[translator]; PANCHESHNIKOVA, L.M.[translator]; FARBEROVA, N.I. [translator]; VASIL'YEV, P.V., red.; VIPPER, P.B., red.

[World geography of forest resouces] Geografiia lesnykh resursov zemnogo shara. Pod red. P.V.Vasil'eva i P.B.Vippera. Moskva, Izd-vo inostr. lit-ry, 1960. 665 p. illus., maps. Translated from the English. (MIRA 15:3)

(Forests and forestry)

FARBEROVA, S.S., inzh. po informatsii

New method for saving raw materials in the cutting of knit goods. Tekst.prom. 25 no.11:51-52 N '65.

(MIRA 18:12)

1. Gomelevskaya trikotazhnaya fabrika imeni 8-ye Marta.

FARBIROVICH, S.(Borisoglebsk).

Exploits of Borisoglebsk firemen. Pozh.delo 3 no.3:20-22 Mr '57. (MIRA 10:4)

(Borisoglebsk--Fire departments)

FARBIROVICH, S.

Documents of the past. Pozh.delo 3 no.10:24-25 O '57. (MIRA 10:11)
(Fire prevention)

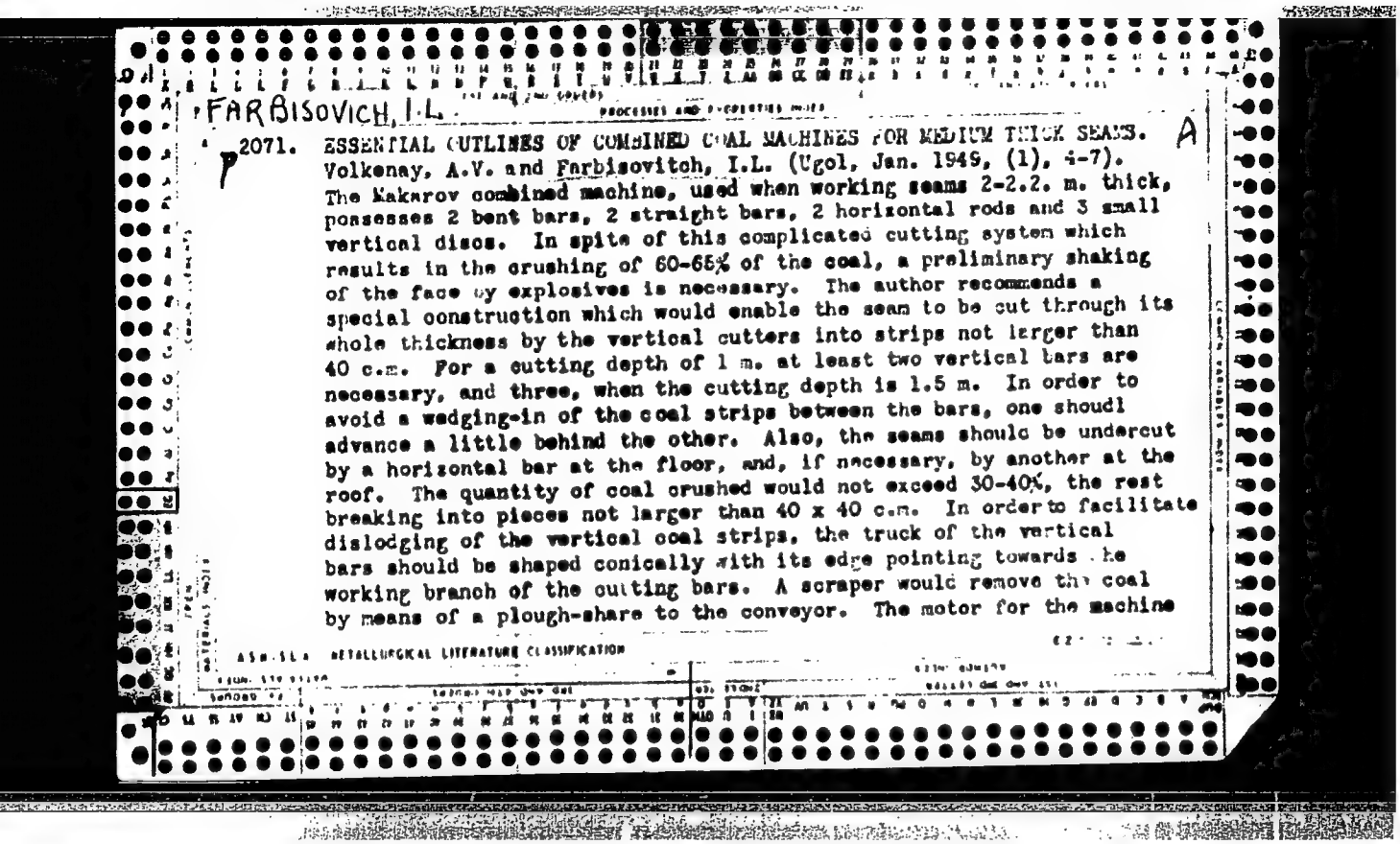
FARBIROVICH, S.

Firemen in the revolutionary movement. Pozh.delo 3 no.11:6-7 N '57 (MIRA 10:11)

(Firemen) (Russia--Revolution, 1917-1921)

FARBIROVICH, S.

After the encounter with journalists. Pozh.delo 9 no.8:10 Ag '63. (MIRA 16:9)
(Fire prevention)



FARBISOVICH, I.L.

P 2071. ESSENTIAL OUTLINES OF COMBINED COAL MACHINES FOR MEDIUM THICK SEAMS. A
Volkenay, A.V. and Farbisovitch, I.L. (Ugol, Jan. 1949, (1), 4-7).
The Makarov combined machine, used when working seams 2-2.2. m. thick, possesses 2 bent bars, 2 straight bars, 2 horizontal rods and 3 small vertical discs. In spite of this complicated cutting system which results in the crushing of 60-65% of the coal, a preliminary shaking of the face by explosives is necessary. The author recommends a special construction which would enable the seam to be cut through its whole thickness by the vertical cutters into strips not larger than 40 c.m. For a cutting depth of 1 m. at least two vertical bars are necessary, and three, when the cutting depth is 1.5 m. In order to avoid a wedging-in of the coal strips between the bars, one should advance a little behind the other. Also, the seams should be undercut by a horizontal bar at the floor, and, if necessary, by another at the roof. The quantity of coal crushed would not exceed 30-40%, the rest breaking into pieces not larger than 40 x 40 c.m. In order to facilitate dislodging of the vertical coal strips, the truck of the vertical bars should be shaped conically with its edge pointing towards the working branch of the cutting bars. A scraper would remove the coal by means of a plough-share to the conveyor. The motor for the machine

would be mounted above the conveyor, high enough for loading to be carried out from underneath. A haulage winch, in the bottom road, with remote regulator would shift the machine along the face. The essential work is done during the advance of the machine to the rise; on its backward travel, the scraper plough works. Forward and backward speeds are respectively 0.6 and 1 m./min. In each of two out of three shifts in 24 hours, a 100 m. face could be stripped once, the machine brought back to its initial position and all the installations moved nearer to the face. The third shift would be used for support and repair work. An output of 11.7 tons per man-shift at the face is expected. Although designed primarily for level or slightly inclined seams, the same construction could probably serve for work in steep seams.

N.C.B.

KASHNITSKIY, L.A.; KUPRIYANOV, N.F.; MAKOGONOV, V.A.; FARBMAN, I.B., redaktor; POLOSINA, A.S., tekhnicheskiy redaktor

[Instructions for planning, accounting and calculating the cost of oil and gas production] Instruktsiia po planirovaniiu, uchetu i kal'kulirovaniiu sebestoimosti dobychi nefti i gaza. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1956. 123 p. (MLRA 9:7)

1. Russia (1923- U.S.S.R.) Ministerstvo neftyanoy promyshlennosti.
(Petroleum industry) (Gas, Natural)

USSR/Biology - Stereoisomeric Acids 11 Feb 51

"Biological Activity of Some Stereoisomeric Acids," V. A. Biber, I. M. Farbman

"Dok Ak Nauk SSSR" Vol LXXVI, No 5, pp 699-702

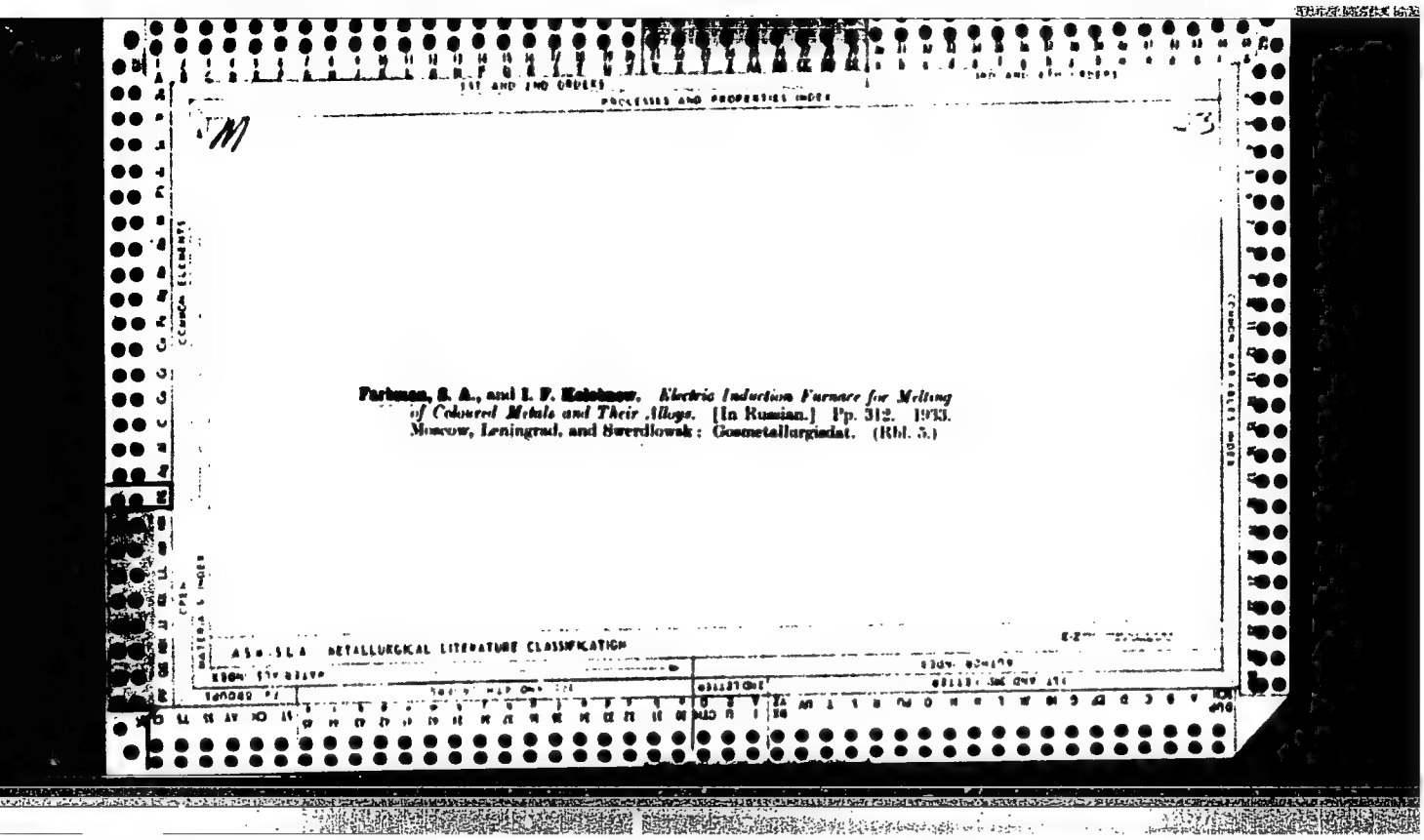
Experimentally detd activity in various biol processes of trans-acids (fumaric, cinnamic) as compared with cis-acids (maleic, allo-cinnamic). Obtained following results. Stimulating effect on yeast in fermentation: allo-cinnamic > cinnamic. Effect on sprouting of corn: Trans-isomers stimulate development of roots, cis-isomers of sprouts. Allo-cinnamic acid suppresses development of roots.

184T4

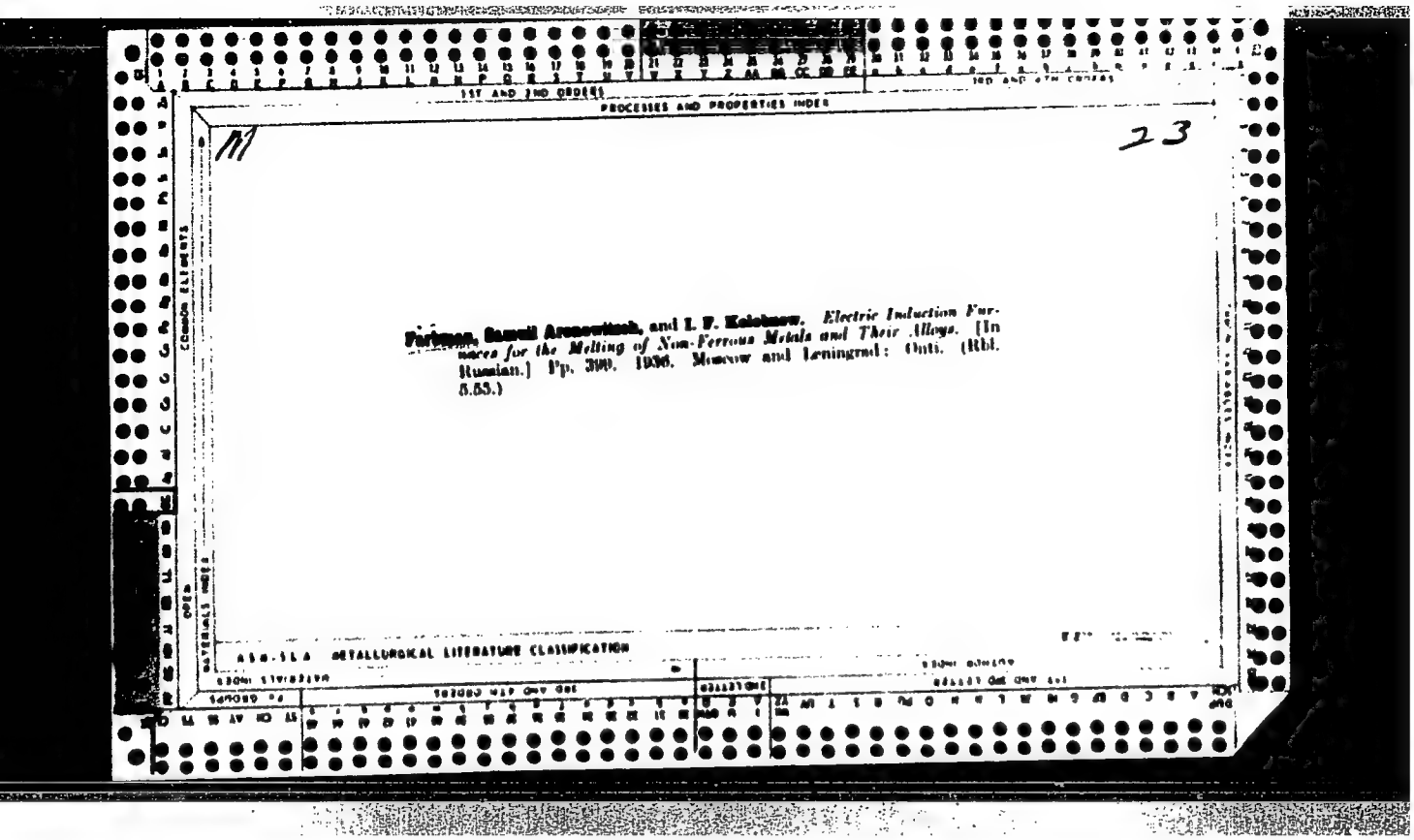
USSR/Biology - Stereoisomeric Acids (Contd) 11 Feb 51

Stimulating effect on respiration of roots: maleic > fumaric. Stimulation of healing of skin injury of rabbit: cis-isomers > trans-isomers.

184T4



Parfenov, S. A., and I. F. Kolobnev. *Electric Induction Furnace for Melting of Coloured Metals and Their Alloys.* [In Russian.] Pp. 312. 1953. Moscow, Leningrad, and Sverdlovsk: Goscmetallurgizdat. (Bbl. 5.)



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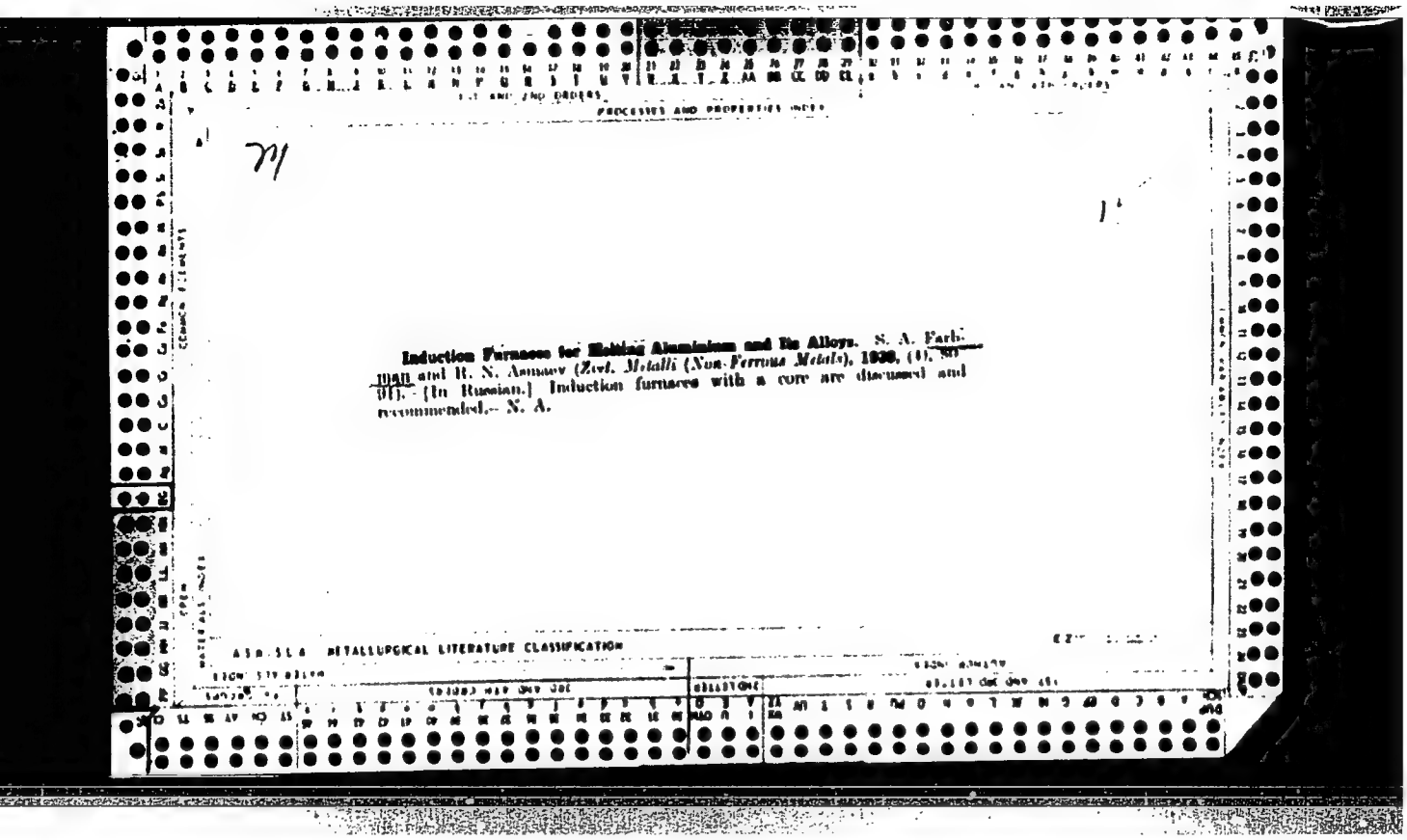
Furman, Samuil Aronovich, and **I. F. Kolobnev**. *Electric Induction Furnaces for the Melting of Non-Ferrous Metals and Their Alloys.* [In Russian.] Pp. 300. 1936. Moscow and Leningrad: Onti. (Bbl. 5.55.)

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Induction Furnaces for Melting Aluminium and Its Alloys. S. A. Farb. 1940 and R. N. Annaev (*Zavd. Metalli* (*Non-Ferrous Metals*), 1939, (6), 87–91). [In Russian.] Induction furnaces with a core are discussed and recommended.—N. A.

A S.D. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

Electric furnaces for smelting metals and alloys. 3.izd. Moskva, Gos. nauch.-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1949. 539 p. (50-19878)

TN685.F3 1949

FARBMAN, S. A. Moscow, Mashgiz, 1957 205pp.

IN Book-- Shaped Casting of Copper (Collection of Articles) 509

This book contains papers presented during a technical and Scientific convention, Moscow, Dec. '55, on theory and praactice of shaped copper-alloy coastings. Kolobnev, I. F., Candidate of Technical Sciences and Farbman, S. A., Engineer.

"Modern Submerged-Resistor Furnaces and Special Features of Copper Alloy Melting Processes."

The authors claim that the most efficient and modern way of melting copper and copper alloys is by means of a submerged-resistor furnace with closed channels. Advantages listed are simple construction and equipment, small zize, high productivity, and low power consumption. Disadvantages are low temperature of slag and high rate of wear of channel lining. The authors stress the need for increased size and higher output of these furnaces and mention as an example a new furnace in Birkenhead, England, witha 15-ton capacity. Some Submerged-resistor furnaces are reported to be used in pressure casting. The text contains a full description of operating condidtions and some maintenance problems. No personalities are mentioned. There are no references.

112-2-3076

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 2, p. 78 (USSR)

AUTHOR: Farbman, S. A.

TITLE: Reconditioning the Magnetic Circuit of Transformers during Repairs (Pereshikhtovka magnitoprovodov transformatorov pri remontakh)

PERIODICAL: Sb. rats. predlozh. M-vo elektrotekhn. prom-sti SSSR, 1956, Nr 2 (61), pp. 10-12

ABSTRACT: Bibliographic entry.

Card 1/1

FARBMAN S. A.

FARBMAN, Samuil Aronovich; KOLOBNEV, Ivan Filippovich; KRYLOV, V.I., red.; SIDOROV, V.N., inzh., red.izd-va; ISLENT'YEVA, P.G., tekhn.red.

[Induction furnaces for melting metals and alloys] Induktsionnye pechi dlia plavki metallov i splavov. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. 1958. 704 p.
(Metallurgical furnaces) (MIRA 11:2)
(Induction heating)

SOKOLOV, Aleksey Nikolayevich; FARBMAN, S.A., red.; CHAYKUN, M.I., red.izd-va; ISLENT'YEVA, P.C., tekhn.red.

[Efficient operating conditions of steel smelting arc furnaces] Ratsional'nye rezhimy raboty dugovykh staleplavil'nykh pechei. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1960. 484 p. (MIRA 14:4)

(Electric furnaces)

TIPASHOV, Ivan Vasil'yevich; FARBMAN, S.A., red.; KISELEVA, T.I., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Engineering methods of investigating electric arc steel-smelting furnaces] Inzhenernye metody issledovaniia dugovykh staleplavil'nykh pechei. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 55 p. (MIRA 14:10)

(Electric furnaces) (Smelting furnaces)

STRUNSKIY, Boris Mikhaylovich; FARBMAN, S.A., red.; YEZDOKOVA, M.L., red.izd-va; KARASEV, A.I., tekhn.red.

[Short networks of electrical furnaces] Korotkie seti elektricheskikh pechei. Moskva, Metallurgizdat, 1962. 335 p. (MIRA 15:5)

(Electric furnaces)

FARBOVSKIY, V.

POLYANSKIY, V.; FARBOVSKIY, V.

Fattening cattle on feed lots. Mias. Ind. SSSR. 25 no.3:39-41 '54. (MLRA 7:7)

1. Glavsagotskot.
(Cattle--Feeding and feeding stuffs)